



## FOREST SERVICE MANUAL NORTHERN REGION (REGION 1) MISSOULA, MT

### FSM 2400 – TIMBER MANAGEMENT

#### CHAPTER 2470 – SILVICULTURAL PRACTICES

**Supplement No.:** R1 2400-2001-2

**Effective Date:** February 22, 2002

**Duration:** This supplement is effective until superseded or removed.

**Approved:** LYNN ROBERTS  
Deputy Regional Forester

**Date Approved:** 02/01/2002

**Posting Instructions:** Supplements are numbered consecutively by Title and calendar year. Post by document; remove entire document and replace it with this supplement. Retain this transmittal as the first page(s) of this document. The last supplement to this title was 2400-2001-1, Chapter 50.

<b>New Document(s):</b>	2400-2001-2	8 Pages
<b>Superseded Document(s):</b> (2400-96-3, 9/18/1996)	2400-96-3	7 Pages

#### **Digest:**

2471.1 – Clarifies procedures and responsibilities regarding size of harvest openings.

2472.03 – Renumbers paragraphs 5-16 to conform to FSM.

2472.33 – Renumbers paragraphs 4-6 to conform to FSM.

2473.04b - Establishes responsibilities for Regional Forester in paragraphs a-j, IPNFs Supervisor in paragraphs a-c and all R-1 Forest Supervisors in paragraphs a-f.

**FSM 2400 – TIMBER MANAGEMENT  
CHAPTER 2470 – SILVICULTURAL PRACTICES**

### **2470.3 – Policy**

#### **Regional Forester's Policy:**

1. When timber production is emphasized in forest plans, silvicultural practices will ensure that stands achieve and maintain the level of stocking, species composition and structure best suited to meeting short- and long-term management objectives including those addressing volume growth and yield. Broad scale factors, such as how concepts of disturbance ecology complement or risk long-term sustainability of the resources we manage, should be recognized prior to implementing silvicultural treatments.

When other resources are emphasized along with timber production, stocking, species composition and stand structure identified to meet short- and long-term resource management objectives should also be implementable and sustainable considering concepts of disturbance and forest ecology. Modification of desired stand composition and structure conditions should be done to complement landscape level desired composition, structure and function objectives.

If timber production is not an objective, silvicultural practices that maintain tree vigor and promote resistance to damaging agents will be used. Dysgenic practices will be avoided.

Silvicultural practices must be ecologically sound. Treatments need not duplicate natural processes, but they must be compatible with the natural forces that create changes in the forest ecosystem.

### **2471 – Harvest Cutting**

#### **2471.1**

Even-aged Stands. The size of harvest openings created by even-aged silvicultural in the Northern Region will be normally 40 acres or less. Creation of larger openings will require 60-day public review and Regional Forester approval, with the following exceptions:

1. Where natural catastrophic events such as fire, windstorms, or insect and disease attacks have occurred, 40 acres may be exceeded without 60-day public review and Regional Forester approval, provided the public is notified and the environmental analysis supports the decision.

2. Where any one of the following conditions exists, the size of an opening may reach up to 60 acres without 60-day public review and Regional Forester approval, provided the public is notified and the environmental analysis supports the decision:

- a. When larger created openings will reduce the disturbance to soil, water, fish, or riparian resources, and residual vegetation by allowing economically feasible logging

**FSM 2400 – TIMBER MANAGEMENT  
CHAPTER 2470 – SILVICULTURAL PRACTICES**

systems that reduce landing and road construction; or locating roads away from unstable soils; and reducing soil and vegetation disturbance from dragging logs.

b. Where groups of dwarf mistletoe or root rot disease infected trees need to be incorporated into the created opening to avoid infection of susceptible conifer reproduction and their inclusion cannot be achieved by centering the created opening over the area of infection.

c. Where visual quality objectives require shaping and blending of openings to fit landform.

d. Where larger units are needed to achieve silvicultural objectives in existing areas of regeneration cutting by the shelterwood method, and where destruction of the newly created stand of reproduction would occur as a result of delayed removal of shelterwood units and shelterwood units under contract prior to approval of the Forest Plan.

Duration. Determine duration based on the management prescription for the area in the Forest Plan. Guidelines will be that a harvested area of suitable and capable forest land will no longer be considered an opening for timber management purposes when stocking surveys carried out in accordance with Regional instructions indicate prescribed forest tree stocking has attained restocking objectives. Where watershed, wildlife, range, and visual resources are to be considered, a harvested area will no longer be considered an opening when the density and height of vegetation in it meet the management prescription objective in the Forest land and resource management plan.

For those situations, which exceed the 40-acre limitation or the 60-acre limitation for those conditions listed in 2a, 2b, 2c, and 2d of section 2471.1 above, Forest Supervisors will submit to the Regional Office a recommendation for exceeding specified limits. The recommendation will be submitted to the Regional Forester at least 45 days before the NEPA decision document is planned for signature. A 60-day public notice and the approval by the Regional Forester shall be completed prior to signing the decision document to provide a basis for the NFMA finding related to consistency with Forest Plans. The Regional Forester has delegated to the Director of Forest and Rangeland, approval authority for those situations where size of openings exceed Management Standards and Guidelines identified in the Regional Guide. Forest Supervisor's responsibility is non-delegable. District Rangers will submit to the Forest Supervisor the following information for each request to exceed the guidelines. This information should accompany the recommendation submitted to the Regional Forester. This same information should be part of the project file for all exceptions to the 40-acre limitation that do not require Regional Forester approval.

1. A concise statement that summarizes why it is deemed desirable to treat units larger than the maximum size specified above by even-aged regeneration cutting methods. Reference should be made to the specific situation in terms of both short- and long-term management

**FSM 2400 – TIMBER MANAGEMENT  
CHAPTER 2470 – SILVICULTURAL PRACTICES**

strategies and to a supporting Environmental Assessment, which has evaluated all resources and socio-economic factors. Reference should be made to the various chapters of the NEPA document where appropriate, with specific reference of where and how effects described in Chapter 4 support the request for exceeding the 40-acre limitation at this time.

2. A statement confirming that each treatment is supported by a silvicultural diagnosis and that a detailed prescription will be written or reviewed by a Certified Silviculturist.
3. Identification of adjacent stands, their acreage, and their present status of recovery.
4. A statement of when the 60-day public notice began or when it will begin.
5. A list of each proposed cutting unit giving the following information:
  - a. Cutting unit number as shown in the Environmental Assessment.
  - b. Stand Identification (as recorded in the Timber Stand Management Record System).
  - c. Treatment acreages.
  - d. Type of cutting method described by terminology in the Timber Stand Management Record System.
  - e. Estimated recovery period before the harvest area will no longer classify as an opening, considering all resource values.
6. A map illustrating the proposed units and their relationship to adjacent units.

## **2472 - REFORESTATION**

### **2472.03 - Policy**

#### **Regional Reforestation Policy**

5. Stocking Guides. Regional Stocking Standards are listed in Chapter 200 of the Reforestation Handbook.
6. Reforestation Surveys and Certification Standards. Survey criteria listed in Chapter 200 of FSH 2409.26b R-1, Reforestation Handbook, for certification and establishment must be met in order to meet Forest Management Act requirements.
7. Reports. Reforestation reporting requirements are listed in Chapter 200 of R-1 FSH 2409.26b, Reforestation Handbook, and FSM 2490. Forests' responsibilities for maintaining data for reports are described in R-1 FSH 2409.21e.

**FSM 2400 – TIMBER MANAGEMENT  
CHAPTER 2470 – SILVICULTURAL PRACTICES**

8. Seed Source and Species Selection. Only seed sources appropriately identified under the guideline of the R-1 Seed Handbook FSH 2409.26f will be used in artificial reforestation projects. Species selection guides are provided in the Reforestation Handbook (FSH 2409.26b, Section 322.4).

9. Seeding Projects. Seeding projects require a prescription and a follow-up monitoring plan before the Regional Reforestation Specialist will authorize the Nursery to release the seed.

10. Plantation Failures Due to Cattle Grazing. Plantation failures due to cattle grazing or trampling will not be replanted unless effective measures are taken to protect new plantings.

11. Plantation Failures Due to Other Animal Damage. Plantation failures due to deer, elk, and pocket gopher damage will not be replanted unless effective measures are taken to protect new plantings.

12. Cattle Grazing. Cattle grazing is not permitted in regeneration areas until after the stand is established (usually 5-7 years) and removed from regeneration status unless specified otherwise in an allotment management plan and silvicultural prescription for the specified area. (See Reforestation Handbook, Chapter 300, 322.2 for criteria to be considered in alleviating animal damage.)

13. Inspection of Contract Planting. Inspections of contract and force-account planting are required. Inspectors must have at least one season's experience planting trees. Contract CORs must have attended a Regional or Forest Tree Planting Workshop within the last 3 years. Inspection of contract work must begin at the onset of the work. After the contractor has settled into an acceptable level of work, inspectors may inspect as logistically convenient, except in per thousand contracts where inspectors must accompany the contractor and his employees when trees are in their possession.

14. District Tree Storage. Ranger Districts must provide properly constructed snow caches, icehouses, or specially designed tree storage refrigeration units that maintain inside tree carton temperatures of either 28-32 degrees F or 32-34 degrees F, with 90 percent relative humidity for the entire storage period. Ordinary coolers may be used only for temporary storage (3-4 days). Proper air space between stacked rows of seedlings must be provided in order to maintain air movement for heat removal from seedling boxes. (See FSH 2409.26b, Chapter 600 for more information on tree care.)

15. Tree Planting. Tree planting must be done with augers or with hand tools using the open hole technique. Slit planting or wedging the hole from the side is not permitted in hand planting. (See FSH 2409.26b, Chapter 700.)

16. Acclimatization or Storage of Planting. Placing jellied-rolled planting stock horizontally back in the nursery box and re-sealing the bag is not a permissible practice for

**FSM 2400 – TIMBER MANAGEMENT  
CHAPTER 2470 – SILVICULTURAL PRACTICES**

temporary storage or acclimatization. Reference the Reforestation Handbook for acceptable alternatives. (See Section 642-643.)

## **2472.2 - Setting and Tracking Priorities**

Districts shall establish and maintain a 5-year reforestation program in their Forest Database. The planned reference TSI tables are obtained by running option 17 from the Regional Reports menu in TSMRS. Chapter 200 in the Timber Management Control Handbook (FSH 2409.21e) references this report. The report displays reforestation, TSI, and stand examination needs to be scheduled on an annual basis. Districts must consider meeting national and Regional stocking requirements on harvested areas within recommended 5-year time frames. (See FSH 2409.26b, Chapter 200.)

## **2472.33 - Reforestation Protection**

Protecting seed and reproduction from animals, insects and diseases on reforestation areas is vital. Policy and Coordination Criteria for Regeneration and Livestock Grazing can be seen in section 2472.03, items 11 and 12 above.

4. Management. Proper grazing management and timber management when coordinated are compatible. Livestock grazing on lands designated for timber production, may only be permitted in regeneration areas under one of the following conditions: (1) the regeneration is established regeneration status, or (2) the silvicultural prescription and allotment management plan are specifically designed to meet regeneration goals. Conversely, on lands where livestock grazing has priority over timber production, allotments may only be planted if an allotment management plan and silvicultural prescription have been developed.

5. Planning. Effective coordinated planning by Forest and Rangeland Staff of livestock grazing and tree regeneration "must" start at the onset of planning for harvest of an area. It should be accomplished in the environmental analysis of the timber sale, and the allotment. The allotment management plan and silvicultural prescription will be the action plans for site-specific management. Required annual livestock management will be provided in the annual permittee plan. Plans for reforestation should consider the use of K-V and appropriate reforestation funds, if needed to protect regeneration. Coordinated use of range improvement funds, for permanent range improvements should be reviewed.

6. Coordination Elements. Both range and reforestation coordination criteria elements to be considered in prescriptions and plans are listed in Reforestation Handbook (FSH 2409.26b, section 322.2).

**FSM 2400 – TIMBER MANAGEMENT  
CHAPTER 2470 – SILVICULTURAL PRACTICES**

## **2473 - FOREST TREE NURSERIES**

### **2473.04 – Responsibility**

#### **2473.04b – Regional Forester**

The Regional Forester shall:

- a. Publishing minimum quality standards for planting stock to be produced by the Nursery.
- b. Providing technical advice and counsel as required to maintain quality standards.
- c. Providing the Idaho Panhandle National Forests with anticipated program levels at least 1 year in advance of sowing.
- d. Coordinating all other agencies and Regional programs at the Coeur d'Alene Nursery, including tree improvement.
- e. Providing the Idaho Panhandle National Forests with tree orders in sufficient time to prepare Nursery sowing schedules.
- f. Reviewing and approving Nursery operational growing and stock handling procedures.
- g. Providing review of all research and equipment development projects to be conducted at the Nursery.
- h. Monitoring and reviewing Nursery operations for quality, efficiency, and cost.
- i. Establishing operating standards and levels for the Northern Region seed bank.
- j. Reviewing Nursery site plans and adjustments.

Responsibilities for administration and management of the Coeur d'Alene Nursery follow (see FSM 1221.3).

The Forest Supervisor of the Idaho Panhandle National Forests (Nursery) is responsible for:

- a. Supplying trees produced according to Regional quality standards on a predetermined schedule and in quantities specified by the Regional Forester.
- b. Annually preparing and submitting for Regional Forester review written operational growing schedules and nursery operating stock handling procedures.

**FSM 2400 – TIMBER MANAGEMENT  
CHAPTER 2470 – SILVICULTURAL PRACTICES**

- c. Supplying trees to other agencies according to procedures approved by the Regional Forester.
- d. Managing and record keeping for all tree improvement facilities and installations, including early selection trials and propagation facilities, on Nursery lands, according to IPNFs and R-1 directives, plans and schedules.
- e. Maintaining the seed bank according to standards established by the Regional Forester.
- f. Developing and maintaining a Nursery site plan that specifies strategies, space allocation, and site utilization for review and approval by the Regional Forester.

All Forest Supervisors in Region 1 are responsible for:

- a. Notifying the Regional Forester and Nursery promptly of tree sowing needs by the required dates listed in the Reforestation Handbook.
- b. Maintaining a 5-year schedule of reforestation needs in the Region's Timber Stand Database.
- c. Specifying the size, species, root lengths, age class, seed source, and quantity of trees to be grown in the request to the Regional Forester. Any changes or deletions in this order will be made through the Regional Forester. Forests will be responsible for costs of all trees ordered.
- d. Notifying Nursery personnel of dates and locations for delivery of stock 3 weeks prior to delivery.
- e. Procuring seed to meet Forest needs as outlined in their respective 5-year reforestation needs in the Timber Stand Database and 10-year estimates shown in seed procurement plans.
- f. Promptly reporting to the Regional Forester all instances where stock quality falls below established Regional standards.